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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior consent of this Division.

REPORT FOR THE WEEK ENDING JUNE 2, 1934.

HAVRE: (Report for the two weeks ending June 2, 1934.)

May was extremely severe. The mean temperature of 62° was the highest in 54 years. The total evaporation was 8.371 inches, the highest on station record, as compared with a normal of 6.140. Precipitation totaled 0.63 inch as compared with the normal of 1.86 inches. Both crops and ranges in this section show the benefit of the heavy rains of last August. While growth has been greatly checked the last two weeks, there has been but little permanent injury, and with rains and cool weather, good yields could yet be obtained this season. Winter rye is in bloom and is rather short in growth. The stools have been checked but the plants are healthy. Winter wheat is heading. Some methods are weedy. Spring grains have not been seriously damaged. They are generally clean of weeds. Late seeding and spring plowing show irregular stands. Corn is growing very well. Most of the alfalfa plots were cut during the past week. Yields in rows were as high as 1,300 pounds per acre. Spear grass has headed on the prairie, and range grasses generally are very good. Cattle were moved to the summer range during the week. The mountain grasses are much ahead of last year and show but little firing at this time. Creeks and springs are failing rapidly. A trip to Miles City, Billings, and Bozeman was made the last week. Ranges and stock water are very short and crop prospects extremely poor in most of this area. Maximum temperature, 95°; minimum, 40°; precipitation, 0.15 inch.

JUDITH BASIN: (Report for the two weeks ending June 2, 1934.)

Crop conditions in central Montana have gone from bad to worse during the past two weeks. Light showers May 18-19 enabled crops to withstand severe damage for about four days, but for the past ten days temperatures have caused widespread damage to all crops. Winter wheat is trying to head at a height of 8 to 12 inches. Most of it is badly burned and even with the best of weather conditions from now on could hardly make an average crop. Spring grains seeded on fallow or corn ground are still in good condition, but those seeded late or on spring or fall plowing are thin, weedy, and are beginning to fire. Alfalfa has reached a height of about 4 inches and is firing. Pastures are in very poor condition, many farmers complaining that their livestock are gradually starving on native grass. Native pastures on the station have made very little growth this season and are as brown as in mid-winter. Corn on the rotations has emerged to fair stands and was harrowed during the week. Six plots of spring wheat and oats on spring plowing which were badly infested with Russian thistles were cultivated with the rod weeder and reseeded.

Maximum temperature, 91°; minimum, 33°; precipitation, 0.42 inch.

HUNTLEY:

Hot weather and drying winds continued during the fore part of the week, and the prospect of crop yields dwindled accordingly. The last three days were much cooler with some cloudy skies and threatened thunder showers. Only the lightest of sprinkles of rain were received. The cooler weather gave some relief to spring crops which had begun to wilt early in the week. Although winter grains are practically beyond hope of recovery, spring grains and corn, where up, continue to be in fair to good condition. Corn made a good growth during the week. The principal field work consisted of cultivating corn, rolling down the clods on recently plowed green manure plots, and planting Sudan grass, sorgo, and soybeans in the pasture experiments. Maximum, 97°; minimum, 42°; precipitation, trace.

SHERIDAN:

The weather continued dry with some high winds and high temperatures except for the last two days. Storms threatened in a few instances, but only more wind resulted. Spring grain began to fire in spots early in the week, and the condition of all crops deteriorated considerably over the week. Some winter wheat, the February seeding of Trebi barley, and Vaughn barley began to head. Ravages of grasshoppers began to be apparent the first of the week, and heavy damage has resulted. A large part of the plants received from Cheyenne and set in the garden in the field were destroyed, the ends of the plots over a large part of the station have been eaten off badly, and some entire plots have been practically destroyed. Poisoning operations were started last week and were continued this week, 2,000 pounds of poison bait, dry weight, having been scattered over the station so far. Sweetclover was mowed for hay. There was sufficient growth to save for recorded weights on only a few plots, the crop as a whole being practically a total failure although the stand generally was good. Plowing for fallow and of sweetclover green manure plots was completed, except for later dates of plowing for fallow.

Maximum temperature, 96°; minimum, 44°; precipitation, none.

MANDAN:

Agronomy - Another dry and hot week has passed. Hot winds occurred on two or three days. The maximum temperature was 102° on two different days and 101° one day. This maximum is an all time record for the Station for May. An all time record was reported by the U. S. Weather Bureau at Bismarck and at several other points in the State. On the morning of the 30th the air temperature was 91°, the minimum was 76°, and the maximum for the day (30th) was 102°. The Weather Bureau records at Bismarck show a mean temperature of 66° for May, which is the highest during 60 years. The previous high was 60°. The day of the 31st was real cool with several drizzles of rain. The maximum for the day was only 72°. The total rainfall for May was 0.17 inch (which came in four gentle showers). This is the lowest record for May since the station started. In 1901 at Bismarck the precipitation for May was 0.04 inch. The total precipitation since October, 1932, is 13.77 inches. Millets and sorghums were planted during the week, but there is not much chance for them to come up without rain. Plowing for fallow is in progress. It is remarkable that small grains are standing up as well as they are. The grain on fallow is still looking fair but is making little growth. Corn has come up in spots. Crested wheatgrass and alfalfa have made no growth for some time and are practically dried up.

Maximum temperature, 102°; minimum, 48°; precipitation, 0.06 inch.

Cooperative Grazing Experiment - In spite of the short pastures and poor grass the cattle made nearly normal gains for 15 days in May in the larger pastures. Bromegrass and crested wheatgrass are in the poorest condition for grazing. Pastures did not improve any during the week. The North Dakota Agricultural College is running slaughter trials on some steers again this year. Two steers were taken to Fargo on the 31st. The following are the gains of the steers for 15 days in May:

Pasture (acres)	Acres per head	Gain per head (pounds)
100	10	59.0
70	7	65.0
Rot. (70)	5	51.8
Bromegrass	5.6	32.0
Crested wheatgrass	1.75	18.8
Reserve	-	44.6

Steers were not started on either the 50 or 30 acre pastures.

Arboriculture - The extreme heat the first half of the week entirely destroyed the remaining stand of green ash, caragana, boxelder, Russian olive, and red cedar seedlings. All these species had emerged to excellent stands, but have been dying off for some time. Ash and caragana fields were replanted. The newly planted caragana seed and possibly the ash seed will emerge this summer if sufficient precipitation is received. Conifer transplant stock has suffered severely the past few days and now appears to be going to suffer a heavy loss.

Horticulture - It has been necessary to water fruit trees planted this spring. Many have not yet started growth. Others started but appear to be drying up. Stands will be comparatively poor. The second spraying of the season has been completed. A mixture of lead arsenate, lime sulphur, and nicotine sulphate was used. This spray caused slight injury to some of the plum trees when applied in very warm weather. Bedding plants on the grounds were set out during the week. The plants comprised cannas in an assortment of colors of pink, red, and yellow; geraniums in red, pink, and white; with border plants of alyssum, coleus, and cineraria. Peonies are now coming into bloom and are in glorious shape. Outstanding varieties so far open are Karl Rosenfield, Therese, Festive Maxima, and Lady A. Duff. The shrubbery is practically through blooming at the present time and is taking on fine growth after the watering applied during the week. President F. E. Cobb, North Dakota State School of Forestry, and R. L. Shotwell, Bureau of Entomology, Bozeman, Montana, visited the station during the week.

BELLE FOURCHE:

The past week was the hottest that has occurred in May and early June during the 26 years in which climatic observations have been made at this station. Maximum temperatures of 90° or greater were recorded on 6 of the 7 days. The temperature on each of the first four days exceeded 95°, the previous highest temperature on record for May. The sky was frequently cloudy and threatening during the latter part of the week, and heavy rains appeared imminent, but only a few light showers were received. Small grain has withstood the hot, dry weather remarkably well but is burning to some extent on all cultural treatments. The damage on summer fallow is caused by the abnormally hot weather and the excessive moisture demands of the crop rather than by a lack of moisture in the soil. Soil samples taken June 2 show that spring wheat has exhausted practically all the available moisture from soil on land which produced a crop the previous year. Land fallowed in 1933 and cropped to wheat is quite dry to a depth of 15 to 18 inches, but a good deal of moisture is present in the remainder of the second foot and in the third and fourth feet of soil. Maximum temperature, 100°; minimum, 52°; precipitation, 0.23 inch. May precipitation, 0.30 inch. The temperature was above 90° on 11 days in May, as compared with 15 days in the previous 26 years.

ARCHER:

Temperatures during the fore part of the week were unusually high, but they fell after a rain during the night of May 30. The precipitation changed the outlook of crop prospects for the present, but the winter cereals have been severely damaged by the drought. The spring crops have been greatly benefited, and the pastures have improved. Work at the station consisted of cleaning cow yards, planting potatoes, making dates-of-seeding, and seeding the varieties of millets. Considerable repair work was done to the bunk house.

Maximum temperature, 90°; minimum, 47°; precipitation, 0.58 inch.

AKRON:

The maximum temperature was above 90° on the 27th and the four following days. Showers threatened following this hot period, but this station recorded but two separate trace precipitations. Corn has emerged to satisfactory stands on most types of soil preparation. Winter wheat seeded on fallow land has made marked recovery the past ten days despite the lack of rainfall. This seems to show that the serious injury earlier in the spring was due to insects and diseases. Oats and barley are heading, as is the winter wheat. It is not felt that ample rainfall now would prevent a total failure of winter wheat, oats, and barley on all preparations except fallow. Blue spruce has only recently showed spring growth activity. Caragana, mock orange, and Russian olive bloomed during the week.

Maximum temperature, 97°; minimum, 40°; precipitation, trace; May precipitation, 1.42 inches.

NORTH PLATTE:

The drought continues unabated. Precipitation for May was 0.75 inch. With the exception of 1931 with 0.21 inch, this is the only May record of less than 1 inch at the station. The precipitation deficit for May was 71 per cent. Evaporation of 9.611 was the highest of record and 49 per cent above the 27-year average for the month. The mean temperature of 70° at the table station is 12.3° or 21 per cent above the long-time average. Further comment on the condition of small grains is hardly necessary. Corn continues to make a fair growth on most of the rotations. First cutting of alfalfa will be under way on the station during the coming week.

COLBY:

This was a dry, hot, and windy week. On the 28th the maximum temperature was 99°, which is the highest recorded for May at this station with the exception of 101° on May 17, 1927. There has been no soil blowing, except for a while the evening of June 1. Corn is up to good stands on all but three of the listed plots and the MC A surface planted plot. The spring small grains are deteriorating rapidly. Oats are heading and the fallow plot of barley is beginning to head. The rest of the barley and the spring wheat look as though they would dry up without heading. The spring small grains range from 8 to 14 inches in height. The only winter wheat plots that are holding their own are those where the wheat is on fallow in the south addition to the project. The sorghum plots were gotten ready June 1 for planting June 2. Maximum temperature, 99°; minimum, 49°; precipitation, 0.01 inch; May precipitation, 0.92 inch; January-May precipitation, 2.62 inches.

GARDEN CITY:

The week was hot, dry, and windy. On May 30 we had one of the worst dust storms this section has experienced this year. The only soil blowing occurring on the station was from whirlwinds. These were in evidence during the entire day as far as one could see. At times the air was filled with dirt until it was almost dark. Field corn which was planted May 24 is germinating slowly. Dr. Fellows from Manhattan visited the station this week in the interest of foot-rot in winter wheat. The readings on the date of planting were quite interesting. The October 15 date showed to be the best time for planting in order to get past this disease, or rather to get a minimum attack. Numerous readings were taken this week on winter wheat plots and surrounding wheat fields with the level in order to get data on what was causing the uneven or patchy growth of the

wheat. Some spots would show up good growth and color, while adjacent to these spots the wheat would be only a few inches high and dead. As soon as this data is assembled the results will be reported.

Maximum temperature, 101°; minimum, 57°; precipitation, none.

HAYS: (Report for the two weeks ending June 2, 1934.)

Drought has continued during the past two weeks, the results of which are becoming more serious every day. There is little feed left in this locality and pastures are growing very short. Some farmers are now pasturing off the wheat to get feed for their cattle. High temperatures and frequent winds are extremely unfavorable for all crops either seeded or unseeded. The former are burning up and for the latter, there is no moisture in the seedbed to justify planting. Early plantings in this vicinity have produced none too good stands and recent plantings are resulting in very unsatisfactory stands. None of the row crops have yet been planted on the Dry Land Project. Alfalfa seeded after one of the best rains of the season failed to germinate. Bromegrass seeded at the time produced a surprisingly good stand, but it has been unable to survive. It is drying up and most of it is now dead. Canada field peas previously reported at from 4 to 6 inches high failed to produce more growth and are now dead. None of the small grain crops on cropped land regardless of the preparation will really be worth harvesting. For the week ending May 26, maximum temperature was 96°, minimum, 50°, and precipitation, 0.03 inch. For the week ending June 2 the maximum temperature was 104°, minimum, 56°, and precipitation, none. During these two weeks there have been frequent winds and the rate of evaporation has been unusually high. May precipitation, 1.17 inches; January - May precipitation, 3.87 inches.

TUCUMCARI:

Three showers the past week brought the May total to 0.53 inch and the total for nine months, September - May to 2.14 inches. May was the second hottest May on record, the mean temperature of 71° being 6° above the long-time average mean for this month. Fruit trees are well loaded with young fruit, but must have rain soon to produce a crop. Grapes bloomed heavily, but many vines set only 5 to 20 per cent of the fruit; other vines still are heavily loaded. Ranges are as dry and brown as in mid-winter, while trees show acute suffering, evidenced by withering and yellowing leaves. Maximum temperature, 99°; minimum, 55°; precipitation, 0.15 inch; evaporation for May, 11.226 inches.

DALHART:

Planting of row crops continued during the week, although this was not rushed. The surface soil is fast losing its moisture, and it is doubtful if the June 1 date-of-planting for the sorghum varieties can emerge to stands unless it rains. All the corn, milo, kafir, soybean, beans, and peanut rotations and the first two dates of sorghums, the corn varieties, and the cotton varieties and spacings are now planted. Crops planted during the preceding week are emerged to stands. Farm planting in the adjoining territory is preceding very slowly owing to lack of sufficient soil moisture except in favored localities.

Maximum temperature, 95°; minimum, 56°; precipitation, 0.05 inch.

BIG SPRING:

Another week passed with lots of clouds but no rain of any value. Nearly every day all of the normal signs of rain would appear. The past week has brought to a close the driest May of any since 1900 when weather records were started in Big Spring; only 0.08 inch, as compared with a normal of 2.67 inches. Early planted stuff, although emerged to good stands, is making very little growth, and in some sections is reported dying. The winter wheat plots were harvested during the week; the binder was used on all but one, but the grain is very light. The June 1 date of grain and forage sorghums, cotton varieties, and cotton spacing was planted during the week but will not emerge without rains. Other work has consisted of thinning April 15 date of cotton, hoeing weeds, and watering trees.

Maximum temperature, 100°; minimum, 65°; precipitation, 0.03 inch.

LAWTON:

The hot weather of the past week that depreciated small grain so rapidly in northern Oklahoma and in Kansas was not so pronounced in southwestern Oklahoma. Oats throughout northern Oklahoma will make only a light crop. Early maturing varieties and plantings of wheat in the same territory will yield fairly well, but a few days delay in maturity will account for a big reduction in yield this year. This condition was especially noticeable in such varieties as Turkey and Blackhull. Many fields of wheat in the Enid section were ripe enough to cut with a binder by June 1. Harvesting was quite extensive in southwestern Oklahoma during the week ending June 2, and the first carload of wheat was delivered from Granfield, Oklahoma. Sorghum thinning was pretty well completed during the week and most of the row crops were cultivated or worked with the rotary hoe. Sorghums, corn, and cotton made a rapid growth during the past 10 days, and weeds vigorously and persistently resist control. June 1, designated as field day for farmers interested in the station wheat experiments, brought out an attendance of about 12 men. K. S. Quisenberry, Division of Cereal Crops and Diseases, and C. O. Johnston, Manhattan, were station visitors May 29. Maximum temperature, 92°; precipitation, 0.24 inch; May precipitation, 3.48 inches.

WOODWARD:

There has been no rain the past week, and wind and temperatures have been high. Most wheat which is in stiff dough has been hanging on remarkably well. It is a question whether a rain now would help it or simply "scald" and shrivel it. Leaves of late wheat are of course, burning, and heads are withering without filling. There has been little demand for sorghum seed for the past two weeks. Since there are plenty of combines in the country, it is likely that wheat which yields but very little will be left to harvest. After harvest, if rains occur, there will be a rush to plant feed crops. There has been an unusually heavy demand for cowpeas and tepary beans all spring to improve soil on acreages being kept out of wheat. Wheat planted after these crops, unless they are plowed under early, is very likely to blow out or yield very little. Ornamental shrubbery and shade trees on the station still look fresh and bright, but leaves of peach trees are beginning to droop. A visitor from the dry plains to the west said the freshness of station grounds seemed too good to be true. Early varieties of cherries were picked during the week.

Maximum temperature, 100°; minimum, 57°; precipitation, 0.02 inch.

PENDLETON:

Erratic weather has prevailed all week, the first three days were hot with temperatures above 90°. The last four were cool with a maximum of 68°. Thunderstorms along the mountains were frequent but no rain fell. On the 28th the maximum temperature was 100° and the minimum 42°. A high wind on the 29th overturned several good sized implement sheds and lesser buildings. During the week some Fairway crested wheat grass was cut for hay, Tall oat grass, orchard grass, and tall fescue were also cut for hay. Crimson clover is now in full bloom and only about 8 inches high. Corn on the rotation plots was thinned this week. Winter wheat is beginning to take on a golden color. Some of the early winter wheats will be ready to cut about the 15th. Winter wheat after fallow on the station should yield about 40 bushels per acre. H. V. Harlan, Cereal Crops and Diseases, was a station visitor on the 30th.

Maximum temperature, 100°; minimum, 32°; precipitation, 0.01 inch.

NOTE:

Under date of June 7, 1934, O. R. Mathews writes as follows:

"I am now located at Pierre as Assistant State Director. My address is Federal Building, Pierre, South Dakota. I am to have direction of the work in the western part of the state. In addition I shall serve as a contact point between the purchasing program and the inspection and relief agencies.

"Conditions in South Dakota are far worse than I imagined they could be. Soil blowing in places is nearly as bad as in the Texas Panhandle. In all sections feed is very short and in a few counties a considerable number of cattle are dying or on the point of starvation. Rains during the last few days have helped the situation somewhat but much more rain is required for any general relief.

"The work is proceeding rapidly. In most counties many cattle are appraised and inspected, and in some cases contracts are completed so that shipment can start at once."

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REPORT FOR THE WEEK ENDING JUNE 9, 1934.

HAVRE:

The week was extremely favorable. Rain was recorded on each day, totaling 1.66 inches. Temperatures were lower. All crops show a decided response with the possible exception of some domestic grasses. Early spring rye is starting to head, and other early spring grains are jointing. Some methods show spotted stands due to delayed germination. Some wheat will be seeded in this section yet. Ranges should improve rapidly, for the early grass on the prairie was burned. Spear grass has headed and June grass has matured, but the growth of both was short. This rain should start gramma and western wheatgrass.

Maximum temperature, 70°; minimum, 44°; precipitation, 1.66 inches.

JUDITH BASIN:

Heavy rains and cool weather during the week have, for the time being at least, ended the ten months of extreme drought. Moisture was recorded on all days of the month to date except one, but the greatest amount fell June 6-7. All vegetation has responded wonderfully well, and for the next ten days at least should make an excellent growth. Grasses in particular have made a wonderful recovery. Crested wheatgrass and slender wheatgrass, which a week ago were as brown and dry as in August, are now green and growing rapidly. Winter wheat should now produce fair yields, although far below what they promised a month ago. Little field work was possible during the week.

Maximum temperature, 75°; minimum, 36°; precipitation, 2.01 inches.

HUNTLEY:

Precipitation was received on five days of the week, but with one exception the showers were too light to benefit crops. A gentle rain amounting to 0.47 inch and falling in a period of six hours brought temporary relief from drought, served to freshen wilted crops, and should be sufficient to germinate seed which has lain in dry soil since planting. In neighboring districts much heavier rains were received, amounting in some places to cloudbursts which washed out crops and roads. Stock water conditions on the range have improved considerably as a result of the recent rains, and it is reported that in many places water is assured for the remainder of the summer. Corn has made a good growth on the plots during the week and is the only crop that shows any marked development for the period. Spring wheat is heading on very short straw in favored spots, but for the most part spring grains have made little progress. Although all spring small grains show the effects of drought, none of them have yet reached the point where they would not recover quickly if sufficient moisture were received, as was demonstrated during the last few days.

Maximum temperature, 84°; minimum, 41°; precipitation, 0.78 inch.

SHERIDAN:

Light rain the first part of the week, followed by cool, cloudy weather the remainder of the week gave grain crops some relief while the cloudy weather lasted and afforded relief from grasshoppers for the same period. The rain was of material benefit to corn and late forage crops, the seed of the latter laying in dry soil before the rain, but it was hardly sufficient to be of more than temporary benefit to grain and grass.

Roadways were lined, the last dates of seeding spring sown crops completed. Some land intended previously for fallow was partially prepared for seeding Sudan grass and sorgo for emergency forage, the hay crop from grass and alfalfa being a total failure. Grass and alfalfa grown in rows made slightly more growth than where sown solid, but not enough more growth to be of any consequence for hay. Neither can any difference of consequence be noted in the growth where the meadow was well cultivated this spring and where it was not touched with any tillage implement. Poisoning of grasshoppers was resumed to-day, June 9, the skies having cleared again.

Maximum temperature, 81°; minimum, 36°; precipitation, 0.80 inch.

DICKINSON:

Rain on six days of the week amounted to 2.3 inches and has greatly changed the crop outlook in the area. The rain was well distributed so there was very little run-off. Cool weather has followed, which has been very favorable for all vegetation. The water now in the soil should insure feed for livestock if followed by normal weather, and on the better small grain fields should insure a fair crop. Many grain fields are very weedy and have been greatly injured by drought and grasshoppers. About half the small grain fields are in such poor condition that they will have to be abandoned. Some fields have possibilities of producing an average crop. A part of the small grains planted in early April and nearly all the corn planted in May, which has lain dry in the soil has now germinated but has not emerged. Some millet and corn is being planted on practically every farm in the area. Millet, flax, alfalfa, and sweet clover were planted on the rotations June 4. Millet, proso, cane, Sudan grass, and corn were planted on the forage crop project June 9. Tomatoes and cabbage were transplanted in the garden.

Maximum temperature, 75 ; minimum, 43 ; precipitation, 2.30 inches.

MANDAN:

Agronomy - The long drought was broken during the week with 1.20 inches of rain on the night of the 6th. This is the first single precipitation of more than an inch since October, 1932, and the most in 24 hours since April, 1933, when 0.65 of an inch was recorded. Rain fell on four days during the week. The moisture penetrated 6 or 7 inches in cultivated land and 3 or 4 inches in native sod. There was little or no run-off, as the rain did not fall hard at any time. The week has been cool and cloudy, and all crops have improved to some extent. The chances are that the better plots will be able to improve to a marked extent. Some plots were so far gone that they cannot revive. Corn is very spotted on the plots but should soon show a full stand. Grasses and alfalfa should improve, but it is too soon for them to show much benefit from the rain. Plowing for fallow was completed before the rain.

Maximum temperature, 82°; minimum, 48°; precipitation, 1.60 inches.

Cooperative Grazing Experiment - The rain will be of most timely benefit to native vegetation, especially blue grama grass. It is too late for some of the vegetation to make much growth as the period of growth has passed. There was not enough rain to put any water in the dams.

Horticulture - All horticultural plantings have greatly benefited from the rains. However, light crops of fruit have generally set. Apples and crabs will be particularly light this year, except for Florence and a few other varieties. Some of the plum varieties have set a good crop, but most plums will be light. Small fruits also have set a light crop. Native fruits such as Juneberries, sandcherries, golden currants, and chokecherries have set good crops for the most part. Weeds have been making considerable

growth, the Russian thistle being the worst offender this year.

Arboriculture - Small amounts of tree seeds of several species have been planted for erosion control purposes. It was impossible to plant this seed earlier, as the ground was in such a dry and lumpy condition that it could not be worked down. A quantity of native elm seed collected by the U. S. Forest Service in the sand dunes near Denbigh, North Dakota, has been planted. The precipitation during the week has had a very favorable effect on nursery stock. It is doubtful,however, if it has penetrated deeply enough to supply moisture to older trees. Conifer seedlings have emerged to dense stands. The cloudy damp weather of the week has been unfavorable for controlling "damping-off" in conifer seedlings. Supt. Stoeckeler, Denbigh Forestry Station, (North Dakota); Dean Coffey, Minnesota University; President Shepperd, North Dakota Agricultural College; John Haw, Development Agent, N. P. Ry.; A. Dexter, Drought Relief Director for North Dakota visited during the week. Secretary Wallace inspected the station June 7.

ARCHER:

During the past week the weather was pleasant but dry, and in this respect conditions are back to where they were May 30 except the spring grains are in greater need of moisture. Winter wheat is holding its own on duckfoot fallow, but on plowed fallow it is not so good. That seeded with the furrow drill is in better shape than that seeded with the common drill. That seeded on land cropped in 1933 is, in practically all cases, droughted beyond recovery. A field of Minhardi on manured fallow in the dairy field has reached the heading stage but has burned considerably. Work at the station consisted of cultivating and hoeing trees, seeding millet in the dairy field, plowing and duckfooting the fallow plots, and pruning dead wood from the trees, especially from the Russian olives and ash. The dairy cows were weighed and changed from the Crested wheatgrass pasture to the alfalfa pasture. The alfalfa stand is thin and Russian thistles are abundant. The cows seem to prefer the Russian thistles to the alfalfa. Professor P. A. Boving, Agronomist at the University of British Columbia, was a station visitor June 9. Maximum temperature,85°;minimum,38°;precipitation,0.08 inch.

AKRON:

On Sunday, June 3, and again on Tuesday, June 5, this section experienced dust storms impelled by hard driving south to southwest winds. There has been no relief from the drought which is getting serious. The county in which this station is located has recently been placed in the secondary class among drought stricken counties. The varietal experiments with forage sorghums, grain sorghums, soybeans, and beans, were seeded. The seed bed in some instances appeared to hold enough moisture to promote germination, but no great hopes are held for satisfactory stands until rainfall is received.

Maximum temperature, 95°; minimum, 44°; precipitation, none.

NORTH PLATTE:

Rains have occurred at various places in the State during the week, but the amount received here was of little benefit. Temperatures were not excessive except on two days, the 5th and 6th, when 100° and 101° were recorded. On the 6th, one of the worst dust storms of the season occurred. The wind blew a gale all day. Evaporation was 0.566 inch. Alfalfa dried so rapidly that it was necessary to follow a rake immediately after the mowers. Corn on the rotation plots is beginning to appear above the lister ridges. Leaves are rolling during the heat of the day, but the plants

appear fresh in the morning. Stands will be thinned during the coming week, although at present it seems doubtful whether it is worth while to expend labor on a crop that has so little chance to survive. Winter wheat that reached the heading stage is now turning white, indicating that it will be ready to cut within a week or ten days.

Maximum temperature, 101°; minimum, 52°; precipitation, 0.14 inch.

COLBY:

The week was dry and windy. There were several light showers, but none of any consequence. Some parts of the county got rains of an inch or more. The sixth was one of the worst days this year. The temperature went up to 100° and the wind blew hard all day and all night, averaging 29.7 miles per hour for the 24-hour period on the 8-foot anemometer. There was considerable soil blowing on many fields in this vicinity, but not much at the station. The evaporation was 0.601 inch that day. Winter wheat is beginning to ripen rapidly. The wheat on plots 257 B and 259 B which did not come up until this spring, is practically dried up now, although it looked fairly good a week ago. Oats are turning white. The spring wheat plots headed this week. Only the fallow plots are at all promising. The barley plots are not standing the drought as well as the spring wheat and oats. Corn is growing fairly well on most of the plots, but on those where corn follows milo many of the plants have dried up, although there is moisture at the roots. The milo, kafir, and feterita are coming up to good stands on most of the plots. The Early Sumac sorgo is beginning to emerge in places. Messrs. Kephart and Savage, Forage Crops Division, and Professor Zahnley, Kansas State College, visited the station June 7.

Maximum temperature, 100°; minimum, 55°; precipitation, 0.07 inch.

GARDEN CITY:

Another week with nothing favorable to report. This week has had more and harder winds than last week, although the temperatures did not run quite so high. There was some threatening weather which resulted in three small showers, none of which did any noticeable good. None of the plots of the field corn, which was planted on May 24, is up sufficiently to record a stand. The best germination occurs on the end of the plots where one would expect it to be poorest, e.g. next to tree row. The only planting being done in this county is on land which can be irrigated. Next week, perhaps toward the end of the week, the wheat harvest on the station will be started and almost as quickly finished. The wheat prospects on the rotations are not promising, however, there will be 19 or 20 plots harvested. Many plots, some of them fallows, do not have anything except dead wheat straw on them about 3 to 6 inches high. These did not even head out.

Maximum temperature, 98°; minimum, 58°; precipitation, 0.27 inch.

HAYS:

For the most part the weather has continued dry, hot, and windy, and crops continue drying up rapidly. After two days of very heavy wind a heavy windstorm occurred followed by 0.32 inch rain Thursday night, June 7. This was followed by a quiet day of hot sunshine which further reduced the prospects for small grains. The steam resulting from the small shower of rain on the hot soil stopped grain development which normally would have taken place under dry, cool, weather conditions, or even in hot weather without the steam. It is now a matter of only a few days when the grain will all be ready for the combine. The prospects of a week ago have been reduced by at least 20 per cent. The crops on fallowed ground are about

all that will be worth harvesting. Wheat and barley plots are now ready for binder harvesting, and oats will be ready by June 11. The ground is still too dry for sorghum planting, although some date planting experiments have gone forward as scheduled on the Cereal and Forage Crops projects, and some planting is being made on the commercial fields. A short crop of Russian thistles are being plowed under to-day, June 9, on the Canada field pea plots. The peas were completely killed by drought, aided slightly in the beginning by plant lice. A field trip June 7 north and east to Mankato, a point about 130 miles from Hays, revealed the fact that conditions in that direction are practically the same as at Hays; except that stock water and pasture are even more scarce, and one is impressed by the really desperate condition of some of the farmers. A number of wheat fields 30 to 35 miles northeast of Hays were absolutely barren and blowing until one could scarcely see to drive along the road.

Maximum temperature, 101°; minimum, 62°; precipitation, 0.39 inch.

TUCUMCARI:

A shower of 0.45 inch the evening of June 3 brought the total precipitation since September 1, 1933, to 2.59 inches and enabled plowing of the MCA plots. The field cultivator was run over nearly all crop land as soon as possible, for high winds have occurred since the rain. Average wind velocity the past week has not been exceptionally high, but practically every day from about 5 to 8 p.m. extremely high winds from the southwest, south, or southeast have occurred. Tree rows were disked or cultivated immediately after the shower, for soil movement took place very soon. Ranges are as brown as in mid-winter, orchard and other trees show drought effects, and conditions in general are very discouraging.

Maximum temperature, 97°; minimum, 53°; precipitation, 0.45 inch.

DALHART:

Three showers during the week penetrated as deep as seed was planted the preceding week and permitted good germination of all crops planted, except cotton which shows skips in most all rows. Other crops have emerged to good stands. Corn rotations were thinned. The first of the sorghums planted will do to thin next week. Work during the week has consisted of removing soil drifts from plots, cultivating vineyard and tree plantings, plowing and listing fallow plots, and hoeing weeds from seedlings. There is insufficient moisture for vigorous growth. The pastures are in the main bare. E. R. Steen returned during the week to have immediate charge of the Cereal project for the fourth summer.

Maximum temperature, 95°; minimum, 53°; precipitation, 0.51 inch.

BIG SPRING:

The weather continued hot and dry with considerable wind added for a change. On June 2 rains were reported in various parts of the county, and in some cases were accompanied by hail which destroyed entire crops. The Weather Bureau, about two miles from the Station, reported 0.97 inch of rain on this date while the Station gauge only showed 0.03. Soil blowing in the sandier parts of the county started during the past week and has caused considerable damage to crops. The years cattle feeding experiments were closed during the week, and the Annual Feeders' Day Meeting was held June 8, when the results of the tests were announced. About 250 farmers and ranchmen attended the meeting. All the milo, kafir, and feterita plots in the rotations, the sorghum nursery, and an increase block of milo and cowpeas were planted. It is probable that this planting will not do much unless it rains soon. Station visitors during the week

included Dan Grey, Director of the Arkansas Station; John Simpson, Livestock Agent of the T & P R.R.; Mr. Stnagel, Head of the Animal Husbandry Department of the Texas Technological College, and J. H. Jones of the Texas A & M Animal Husbandry Division.

Maximum temperature, 100°; minimum, 65°; precipitation, 0.03 inch.

LAWTON:

Maximum temperatures ranging from 88° to 97° provided satisfactory growing weather for corn, cotton, and sorghums. A rather brisk wind movement during the daylight hours the latter half of the week sapped the surface soil of moisture quite rapidly. Although crops are not suffering, a good rain would be very beneficial. Silks and tassels are making their first appearance in several of the corn plots, and a few squares are forming in the April 15 planting of cotton. Small grain harvest was completed on the station June 8. Considerable harvesting of both wheat and oats remains to be done throughout the county. Other field work during the week consisted of sorghum thinning, cotton chopping, and cultivating. Weeds in the row are giving more trouble this year than usual. There are but few clean fields in the county at the present time. Present conditions indicate that weeds will choke out the various spring plantings of Crested wheatgrass, lespedeza, and Dallis grass. The second growth of alfalfa on the increase fields is ready to cut. Although the yield will average light, the quality of hay is good. Spring plantings of sweet clover in paired rows has made an excellent growth to date and appears to be in good shape to survive the summer.

WOODWARD:

Last Saturday night, June 2, precipitation of 0.66 inch occurred. This was followed by three quiet days with moderate temperatures. June 6, 7, and 8 were hot with fairly high wind. Friday night, June 8, rainfall of 0.23 inch was recorded, with June 9 cool and quiet. While there will be few high yields of wheat, the quality will be good from most plots on the station. It is possible that some of it maturing very late may be shriveled. Kafir, milo, and cowpeas planted the fore part of the week are apparently emerging to good stands. Cotton is making steady, normal growth. Good growth was made on sweetclover varieties, several of which are past bloom, others just coming into bloom. Among the ornamentals many are now past their blooming prime, but at least twenty genera of shrubs, trees, and herbaceous perennials are now at their best or just coming into bloom. Herbaceous perennials adaptable to the Plains, when cared for, probably are without practical limit in number. This is contrary to the usual opinion that there are very few that will succeed here. K. S. Quisenberry, Division of Cereal Crops and Diseases, and D.A. Savage, Division of Forage Crops and Diseases, were station visitors. E. W. Johnson arrived to take charge of shelter-belt work.

PENDLETON:

Rainfall of 1.20 inches during the week will insure plump winter wheat and will materially increase the spring wheat yields. The rain was not generally distributed over the Columbia Basin, the drier areas to the west receiving little or none. In some of the drier sections of this county the rain was of little or no benefit to the winter wheat. The majority of the winter wheat is beginning to color up. Some wheat is lodged. Range and pasture conditions are much improved. Corn and grasses were cultivated and some of the fallow land was gone over with the revolving rod weeder this week. Dr. A.Hafenrichter and J.Jacklin, Soil Erosion Sta., Pullman, Wash., and H. A. Schoth, Oregon Exp. Sta., Corvallis, Oregon, visited the station. Maximum temperature, 86°; minimum, 42°; precipitation, 1.20 inches.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUN 16 1934

Not for publication without
prior consent of this division.

REPORT FOR WEEK ENDING JUNE 16, 1934.

HAVRE:

Cool and rather damp weather during the week was favorable for all vegetative growth. Spring grains are shooting and winter grains are progressing in good shape. Alfalfa has started second growth since the rains. Corn was cultivated. Oats and Ladak alfalfa under irrigation and crested wheatgrass and Ladak on dry land were seeded during the week.

Maximum temperature, 83°; minimum, 46°; precipitation, 0.02 inch.

JUDITH BASIN:

Excellent growing weather the past week has caused rapid development of all crops. Winter wheat that was not too badly injured by drought has made a good recovery and now promises fair yields. Spring wheat, oats, and barley look very promising, except on some of the poorer methods where Russian thistles are a serious menace. Flax is very poor and weedy on all methods, it ranging from 2 to 12 inches in height on the same plot. Pastures have revived and are making a good growth though native grass is still short. Hay crops are producing a fair growth, but the yields will be much below average. Work during the week has consisted of harrowing and cultivating corn, cultivating fallow, clearing alleys and roadways, and poisoning grasshoppers. The rains of a week ago do not seem to have diminished the numbers of these pests. However, where a good job of poisoning was done in 1933 their numbers are few.

Maximum temperature, 78°; minimum, 36°; precipitation, 0.01 inch.

HUNTLEY:

Moderately warm weather prevailed throughout the week. Frequent thunder showers threatened but passed around us to the benefit of benchland farms, and contributed only light sprinkles of rain to the valley. A shower early this morning was the only measurable precipitation received during the week. The rains received a week ago were of little benefit to crops in this locality. In places the moisture penetrated to the depth of seeding and sprouted corn and small grains. Winter wheat, and early sown spring wheat and oats are now fully headed. A large percentage of the heads appear to be blasted entirely or in part. Hogs on pasture were weighed and the spring pigs moved from the plot of rye to the acre of field peas in rotation 652. Alfalfa hay was cut, alleys, roads and fallow plots were cultivated, and corn was planted by hand in vacant places in the rows where the seed had sprouted and died.

Maximum temperature, 88°; minimum, 45°; precipitation, 0.27 inch.

SHERIDAN:

Partly cloudy and unsettled weather prevailed over the most of the week. Temperatures were somewhat higher than the previous week but were considerably lower than for the most of May. Apparently some good rains fell in nearby localities nearly every day, but no rain of consequence fell on the station. All crops near the heading stage deteriorated to some extent. Firing is now evident with all crops near that stage except the most of the crops on fallow. Oats and spring wheat in the rotations began to head during the week. Much of the flax sown in May emerged the last two days. Millet, Sudan grass, and sorgo sown the latter part of May and the first week in June is emerging rather unevenly. All the later seedings were gone over with the rotary hoe. All alfalfa and grass land,

except a part of the meadows on the north side of the station, was gone over with the mower to get what little hay may be obtained. Corn in the rotations and seed blocks was cultivated, and some was thinned to stand. Corn is growing rapidly, the moisture supply still being ample for that crop.
Maximum temperature, 87°; minimum, 45°; precipitation, 0.11 inch.

DICKINSON:

Cool, cloudy weather most of the week with two light showers was favorable for plant growth. Grains have improved in appearance, but they are heading early with prospects for very light yields on the better fields. Many fields are so weedy that the grains are likely to be crowded out by Russian thistle and other weeds. Corn planted about the middle of May has emerged with good stands but has grown very slowly during the week because of cool weather. Much corn and millet was planted in the district during the week. Alfalfa fields were cultivated and will be reseeded as soon as possible. Pasture mixtures were seeded June 13. Native pastures have greatly improved during the week and now provide some feed. Grasshopper poison was spread on two days of the week, as grasshoppers continue to hatch and are moving on to the station from adjoining farms. Maximum temperature, 85°; minimum, 45°; precipitation, 0.29 inch; precipitation, June 1 to 16, 2.78 inches.

MANDAN:

Agronomy - The past week was cool and no rain fell, although some days were cloudy. Small grains improved, but it is doubtful if they can make much of a crop. Some plots were beyond recovery before the rain of last week. Russian thistles are very bad in most grain plots, and especially in those on summer fallow. Corn that failed to germinate before the rain is now up. Flax, alfalfa, and some feed crops were planted during the week. Fallow was worked with the duckfoot, and all corn was harrowed.
Maximum temperature, 89°; minimum, 45°; precipitation, none.

Cooperative Grazing Experiment - Pastures continued to improve. Crested wheatgrass which had been closely grazed made a rapid growth after the rain and is now green. Blue grama grass made a rapid growth and is now furnishing some feed.

Arboriculture - Siberian pea tree seedlings have been sprayed against blister beetle injury. Beetle infestation has been severe for the past month on several tree species. American and Chinese elm seed and the second planting of Siberian pea-tree seed, have emerged during the week. Moisture is badly needed for them to progress satisfactorily, as the surface of the ground has formed a very hard crust. Fairly definite evidence of the amount of killing which took place last winter in the species testing blocks is now available. Black Hills and White spruce, and Scotch, Jack, and Norway pine have suffered very heavy killing back and numerous losses. Western Yellow pine and red cedar have suffered some tip injury but no losses in stand. The evidence is becoming more conclusive that these two latter species are the most drought resistant conifers that have been tested in this region. Many blocks of birch, poplar, larch, arborvitea, basswood, and mountain ash, have killed out entirely, or show life only at the base. Several other species have killed back badly, but are showing sprout growth some distance above the ground. New growth and foliage is very weak on all species. Many trees now living will die during the summer unless considerable rainfall is received in the near future.

Horticulture - Most trees and shrubs have been making a good growth since the rain of last week. A few strawberries and currants are beginning to ripen, but these fruits will be almost a failure this year.

All field planting of vegetables was completed on the 13th. The rain of a week ago brought germination to stuff planted the latter part of April. The second planting, made in late May, is coming along at the same time. Four thousand five hundred (4,500) tomato plants, set out just before the rain, practically all survived the transplanting and are coming along nicely. Cabbage and cauliflower set out two weeks ago, suffered from scorching, freezing, and damage from rodents. They had to be replanted four times, but are now coming along nicely. They will be a month late in maturing, as will be the vegetable crops in general. The lawns, flower beds, and shrubbery benefited greatly by the rain. Never before have peonies made such a gorgeous display at the station. Early varieties have completed their bloom, but late ones are still in their glory. Outstanding among the latter are Philippi Rivoire, Milton Hill, E. B. Browning, Baroness Schroeder, and Rubra superba. Other perennials and shrubs in bloom at the present time are Umbellatum lilies, Gypsophila, Hemerocallis, Josikea and Japanese lilacs, and hybrid Rugosa roses. Visitors included, S. C. Salmon, Cereal Crops and Diseases; C.B.Hoover, Economic Advisor to Secretary on cattle and agricultural program; H.L.Walster, North Dakota Agricultural College.

BELLE FOURCHE: (Report for two weeks ending June 16, 1934.)

Cool, cloudy, unsettled weather prevailed nearly every day during the past two weeks. A rain of 1.70 inches on June 6 terminated the long spring drought. Considerable run-off occurred during the storm, but sufficient moisture was absorbed by the soil to penetrate to a depth of 12 inches. The heavy rain was received just in time to save small grains which were burning quite badly, and it relieved a serious water shortage for livestock on the range. Five other light showers were received, but none of them was heavy enough to be of any benefit to plant growth. All crops have made a marked improvement since the rain. The various small grains are heading and flax is blooming. Much of the small grain and corn which failed to germinate earlier in the season, because of the dry condition of the seed bed, is now coming up. Sweetclover, bromegrass, and alfalfa seeded early in the season are now emerging, but it is doubtful if satisfactory stands will be obtained on any of the plots. A vigorous plant growth during the past week has utilized most of the moisture in the soil, and a few days of hot, dry weather will cause the various small grains to commence burning again. Field work has consisted of plowing sod plots and the remainder of the green manure plots, cultivating alleyways, duck-footing roads, and hoeing.

Maximum temperature, 87°; minimum, 43°; precipitation, 2.28 inches.

ARCHER:

The weather continued dry until the afternoon of June 14 when a shower of 0.31 inch occurred. During the afternoon of June 15 another storm with considerable hail occurred. This storm totaled 0.73 inch of precipitation and made a total of 1.13 inches for June to date. This will greatly relieve the drought conditions in this section. The hail damaged some of the more tender plants, but most of the field crops were not seriously injured. The early spring cereals are heading and the potatoes are emerging. The winter cereals are fully headed, and most of the perennial and winter cereal hay crops have been cut. A 20-acre field of Minhardi wheat hay was cut and part of it hauled when the rains occurred. The estimated yield is one ton per acre. H. Fellows, Manhattan, Kansas, visited the station June 15 and found serious foot rot conditions in the winter wheat seedings of Aug.15. Later seedings were found to be in better shape. Maximum temperature, 88°; minimum, 41°; precipitation,1.04 inches.

AKRON:

Rains have been general in northeastern Colorado this week end. Rainfall reports have ranged from 1 to 6 inches. Rainfall was recorded at this station as follows: 0.08 inch on June 14; 1.52 inches on the 15th; and 1.15 on the 16th. These last two precipitations occurred as single rains, and there was heavy run-off with some soil erosion. This rain should give corn, beans, proso, foxtail millet, sorgo, and Sudan grass a good start. It is probably too late to benefit barley, oats, or winter wheat, except possibly to make more plump the berries of a very light crop. This rainfall may have covered many of the recently emerged forage and grain sorghums in the variety experiment and have been damaging because of its volume and intensity. G.E.Falke and Mr.Owens, the former from the Secretary's Office, and the latter from the State FERA office called Saturday morning. H.Fellows is here this week end in the interest of winter wheat foot rot investigations.

Maximum temperature, 97°; minimum, 51°; precipitation, 2.75 inches.

NORTH PLATTE:

The long, disastrous drought has come to an end, or at least has been checked at this station. Rain on the last three days totals 1.25 inches. This came gently, so that there was practically no loss from run-off. Small grains will be benefited slightly if at all, but there is ample time for feed crops to be seeded, and corn and pastures should show immediate response. Winter wheat ripened rapidly early in the week. One variety, Quivera, was harvested on the 12th. All winter wheat on the station that has produced heads will be ready for harvest during the coming week. Corn has been thinned to uniform stands, and first cultivation was about completed when stopped by rain. Smith-Hughes agricultural teachers held their annual summer meeting at North Platte June 11-13, making a tour of the station on the first day. The Nebraska Livestock Association opened a three-day convention with a buffalo barbecue in the station canyons on the evening of the 14th, with about 500 delegates in attendance.

COLBY:

A half-inch rain night before last and another last night interrupted the continued dry weather. Cooler weather prevails, also. Preceding a light shower the evening of the 12th a very hard wind blew from the north for about 20 minutes, breaking off many tree limbs and filling the air with dirt so that one could not see over 20 feet away. Harvesting winter wheat with the binder was started at the station on the 14th, which is three weeks earlier than usual. Combining may start some time next week. All crops have ripened fast during the week. Corn was not looking very good until the rains came. Sorghums needed the surface moisture for germination and for growth until the roots could be established in the moist soil beneath. The late plowed fallows were plowed on the 15th, and the peas were turned under. The peas were about 8 inches high and almost dried up. Where the ground had been one-wayed to keep it clean, the soil was wet and turned up mellow. Where the ground had not been worked the thistles were fairly thick and up to a foot high and the ground was mostly dry and hard, turning up cloddy. The rain had penetrated about 3 inches. About 150 business men from Colby and other points in northwestern Kansas attended the home products luncheon at the station the 12th. Pres. Farrell and Dean Grimes of the State College, and Supt. Aicher and Mr. Hallsted of Hays, were among the visitors.

Maximum temperature, 94°; minimum, 55°; precipitation, 1.24 inches.

GARDEN CITY:

This week started off hot, dry, and windy, but light showers were received on the 13th, 15th, and 16th. The rain the night of the 15th was accompanied by some hail but not enough to do any damage. Total precipitation for June to date is 0.82 inch. This has fallen in such small dribbles that none except the last has done any good. The caterpillar tractor was mounted in the combine this week and everything set to combine all the wheat on the rotations as soon as ready. The plots are being put in shape for planting of row crops the 16th. If the conditions remain favorable the row crops will be planted the first of the week. The field corn which was planted in May is still waiting. Two plots have emerged to sufficient stand that emergence dates have been listed. The others should come through now as the furrows are pretty well watered from this last shower.

Maximum temperature, 95°; minimum, 55°; precipitation, 0.55 inch.

HAYS:

Rains have changed the program for western Kansas. During the last two days rains have occurred in most of the counties but in varying amounts. The rain came too late for wheat, which is now being harvested, but it will be very helpful for pastures and gardens which are extremely poor and for feed crops, a considerable acreage of which has not been seeded because the ground was so dry. Most of the plots of barley and oats on the project were harvested June 14 with a mower. Rain the night of the 14th prevented finishing the job the 15th, and the ground is still too wet to-day, the 16th. Winter wheat is ready for the combine, except for a small percentage of soft grain which is drying out very slowly. The quality will be very poor. All row crop plots were staked and made ready for planting. The M.F. winter wheat plot O was plowed June 15. Winter wheat in the roadways has been harvested in preparation for plot harvesting.

Maximum temperature, 94°; minimum, 57°; precipitation, 2.20 inches.

TUCUMCARI:

Rain and hail the 15th totaling 0.22 inch brought the June total to date to 0.67 inch and total for 1934 to date to 1.44 inches. Although some localities have received sufficient moisture for planting, rains and showers remain very local in character. Conditions are steadily becoming more critical over much of the county. Work of the week included field cultivating nearly all crop land, harvesting a very light wheat crop with the mower, moving windmill tower, and cultivating tree rows, orchard, and vineyard. Visitors included, J.R.Horton, Bureau of Entomology, and Messrs. Chilcott and Johnson of the Woodward Station.

Maximum temperature, 103°; minimum, 56°; precipitation, 0.22 inch.

DALHART:

The four showers during the week gave sufficient moisture for continued germination of sorghums which have been seeded. They did not furnish sufficient moisture for seeding of sorghums on farms in the immediate territory where the ground had not already been prepared. Excellent stands have been secured on the station for crops planted previous to this week. The last date-of-planting for the grain and forage sorghums was made on the 15th. There still remains to be planted on the station the forage crops on the rotation project, some increase fields for feed and seed, and some nursery crops. These will be planted the coming week. All seed beds are prepared and, while there is practically no stored moisture in the soil, there appears to be sufficient moisture in the surface foot for germination and seedling growth. Soil moisture sampling on milo plots

shows ample moisture for seedling use in the surface foot. Soil moisture samples on wheat seed bed plots, except on the fallow plot, shows that the thistles, which came after the wheat was killed by drought, use the moisture up as fast as it has fallen in the small showers. The scattered showers continue to cover only a small area and are very spotted in the amount of rain which they furnish.

Maximum temperature, 96°; minimum, 56°; precipitation, 0.76 inch.

BIG SPRING:

Climatic conditions have not improved any during the past week. Temperatures have continued high, with wind velocity causing considerable soil movement. Several hundred acres of crops in the light sandy sections have been destroyed by soil movement during the week. All of the sorghums in the June 1 variety date planting and in the rotations have emerged, but they are making very little growth and probably will not last long if the hot winds continue. The winter wheat plots were threshed this week. Yields ranged from 3 bushels per acre on M.C.A., late fall plowing, to 13 bushels on early fall plowing, M.C.B. Other work has consisted of thinning May 15 variety date sorghums, watering evergreen trees, and building some fence. The June 15 date of planting sorghums was made, but it is very probable that they will not emerge without a rain.

Maximum temperature, 105°; minimum, 70°; precipitation, none.

LAWTON:

An average maximum temperature of 97° for the past week, 0.60 inch precipitation on the 12th and 0.88 inch on the 16th provided excellent growing conditions to which corn, cotton, and sorghums made a fine response. Both rains were well absorbed by cultivated soil. The precipitation on the 16th was quite general in the southwestern counties of the State, and reports of minor damage from the high wind that accompanied the storm are current. Although corn and sorghums were pretty well lashed by the wind, no damage of consequence is apparent on the station. Corn is quite fully silking and tasseling, and cotton is much further advanced in growth at this date than in previous years. Weed growth continues the requirement of frequent cultivation, and some crops are still dirty in the row. Cotton chopping, with the exception of some spacing work and one late planting date, was completed June 16. The June 15 planting date of cotton was made on a good seed bed. Four tons of good quality of alfalfa hay were placed in the barn during the week.

Maximum temperatures of 100° were recorded on the 10th and 15th.

WOODWARD:

More weather was crowded into the past week than has been experienced here for some time. The early part of the week was hot and windy. On the night of the 13th a rain of 1.15 inches occurred with little run-off. On both of the following two nights fierce electrical wind storms threatened to demolish old and poorly constructed buildings, but apparently did little damage except to break off tree limbs, scorch newly emerged sorghum crops with sifting sand, and cover vegetation in general with a coat of dust. These were the most severe dust storms of short duration occurring here in several years. Last night, Friday 15th, a rain of 2.46 inches occurred, most of which fell within an hour, with considerable run-off. Sorghum crops coming up over the country were washed out or under, and many farmers are preparing to replant large acreages as soon as the soil is dry enough. Harvesting of wheat in the community is well under way and will be in full swing during the next week. Low to fair yields have been reported, with

good quality. Station work for the week consisted of binding and combining wheat, harvesting alfalfa hay, cultivating corn, cotton, and orchard, picking cherries, gathering nursery seed, planting sorghums, and planting grass in yards and ditches.

Maximum temperature, 100°; minimum, 61°; precipitation, 3.61 inches.

PENDLETON:

The past week has been quite hot. The winter wheat has ripened rapidly, a few of the early winter wheat varieties are ready to harvest with the binder. The spring wheat is also beginning to show color. Winter barley is ready to harvest. One farmer in the west end of this county started harvesting this week. Farmers growing peas are much concerned over aphis injury. One farmer who has about 800 acres of peas is planning to dust them by airplane. Peas are a more profitable crop than wheat this year, averaging 3½ cents a pound for green peas and 6 to 8 cents a pound for seed, with yields ranging from 1,000 to 2,000 pounds per acre. All fallow on the station was cultivated this week with the rotary rod weeder. Weeds were hoed out of the corn and rotation alleys. Some wheat and oats was cut with the binder for hay. Plans have been perfected to measure all the wheat acreage in Umatilla County by airplane, pictures will be taken from an elevation of 12,000 feet using an aerial camera with a 12-inch lens. Test photographs have been made and checked with surveyors' measurements and come well within the percentage of error allowed by the AAA. B.B. Bayles, Division of Cereal Crops and Diseases, arrived the 13th. He expects to remain about ten days. Messrs. Jacklin and Jackal of the Soil Erosion Service, Pullman, Washington, were station visitors on the 13th and 16th.

Maximum temperature, 98°; minimum, 39°.

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N O T E:

The division of Dry Land Agriculture moved from the West Wing, Administration Building June 11 and is now located in Rooms 5626 - 5640 of the new South Building, across B Street (now Independence Avenue). The new quarters are on the fifth floor of the sixth wing. The rooms are all on one floor and intercommunicating, and include about the same floor space as the old quarters. The Divisions of Forage Crops and Diseases, and Cereal Crops and Diseases occupy the remainder of the fifth floor of this wing.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior consent of this division.

REPORT FOR THE WEEK ENDING JUNE 23, 1934.

HAVRE:

The weather was cool with very little rain. Wind velocity was rather high on the 21st and 22d. All spring crops are growing nicely. Early spring grains are headed and some of the earlier in bloom. Many fields are uneven due to delayed germination. Corn was cultivated. Sweet clover hauled in. Irrigated alfalfa is being stacked. Ladak alfalfa was seeded on commercial fields. Prof. Clyde McKee of the State College and Sam Sloan of the Extension Service were station visitors.

Maximum temperature, 83°; average maximum, 76°; minimum, 48° average minimum, 49°; Evaporation, 2.287, or .632 above normal; precipitation, 0.02 inch.

JUDITH BASIN:

The weather during the week has been favorable for the rapid development of small grains. Sixty-Day oats and Prolific spring rye on the rotations are almost fully headed and Marquis spring wheat is in the boot stage at a height of about 15 inches. However, most of the soil moisture has been exhausted where there is a heavy vegetative growth and a few days with high temperatures would cause heavy reductions in yields. Pasture and hay crops have made but slow growth during the week and are needing rain. Yields of the latter crops will be very light. Work of the past week has included cultivation of corn and fallow, cleaning feed lots and poisoning grasshoppers. The presence of Mormon crickets is reported in the Judith Basin. Recent Station visitors have included Prof. S. Clyde McKee and P. A. Young of the Montana Experiment station, R. E. Bodley of the Extension Service and R. S. Washburn of the Bureau of Agricultural Economics.

Maximum temperature, 81°; minimum, 43°; precipitation, 0.28 inch.

HUNTLEY:

Cool weather throughout the week has been beneficial to crops and where drought injury has not been too severe some growth has been made. Dormant seed has sprouted on many plots since the showers of the last two weeks and stands have been increased. Unless more rain occurs soon, however, these plants cannot survive. Weeds have sprung up on all uncropped land and in plots sown to row crops. Duckfooting of roads and fallows, and cultivation of alleys is again under way. Hogs on all of the pastures were weighed. The fall pigs on alfalfa pastures were removed to the dry lot to be finished for market, having reached the required weight to conclude the experiment. The row plot of alfalfa still has ample forage but on the close-drilled plot the crop was getting short and dry. Station visitors during the week included Mr. J. M. Stephens of the Mandan station and Dr. Hoover, of Secretary Wallace's staff, Washington, D.C.

Maximum temperature, 88°; minimum, 41°; precipitation 0.18 inch.

SHERIDAN:

Unsettled and partly, cloudy weather, with comparatively low temperatures except on two days, enabled crops generally to maintain about the same condition as reported for last week. One light shower passed over the station. Good rains were reported from some nearby sections. Oats and spring wheat in the rotations are heading. All hay was hauled and corn was thinned to stand. Corn has begun to curl some during the day. Poison bait for grasshoppers was scattered over the station again.

Maximum temperature, 95°; minimum, 40°; precipitation, 0.31 inch.

DICKINSON:

Two light showers and normal temperatures during the week were favorable for crop growth. Late-seeded forage crops are emerging promptly with good stands. Weeds have grown rapidly, and extra help was needed for weeding. Wheat on the rotations is starting to head at a height of about 18 inches, while that which germinated after the rains, and which varies from about 5 to 80 per cent of the stand, is only 3 to 4 inches high. All corn on the Station was harrowed during the week, and the rotation corn plots were cultivated. Corn has developed rather slowly because of the cool weather. Two increase blocks of Grimm alfalfa were seeded. Poisoned bran for grasshopper control was spread on two days. J. M. Stephens visited the station on June 19.

Maximum temperature, 88°; minimum, 44°; precipitation, 0.47 inch; precipitation June 1 to 23, 3.25 inches.

MANDAN:

Agronomy. Crops improved markedly during the past week of good rains and cool weather. Small grains showed great improvement, but in most cases very little grain will be produced because of poor stands. Even on fallow with good stands the weeds are so thick that grain has little chance. A few plots are good. Corn is growing rapidly and was given the first cultivation. It is much behind normal. Crested wheatgrass has grown rapidly and is now mostly headed out in rows. The first cutting of alfalfa in the coulee field was made at the end of the week. The crop will be very light. Flax is coming nicely and is clean. A rain of 1.59 inches fell on the afternoon of the 16th. This was the largest single rain since May 1932. So far this month the rainfall totals 3.52 inches, which is the most for a single month since July 1931.

Maximum temperature, 87°; minimum, 52°; precipitation, 1.90 inches.

Cooperative Grazing Experiment: All pastures have greatly improved and the cattle are now all enjoying full feed. Crested wheatgrass is now much ahead of the cattle and is starting to head out in places. Early in June the pasture was bare. Blue grama grass is making a rapid growth. So far there has not been enough rain to put any water in the dams.

Horticulture: All horticultural plantings have been making a good growth since the recent rains. Removing dead wood from fruit trees and hauling the brush away has been in progress throughout the week. Winter injury notes have been taken. Winter injury to fruit trees and small fruits was more severe than usual.

Perhaps drought injury might be a more proper term, as much of the injury took place in late May or early June, and was due primarily to lack of moisture. The amount of injury or killing back this year often bears little relation to the known hardiness of the variety. Such injury was generally most severe in closely planted blocks. Unpruned trees lost many of their weaker branches, while severely pruned trees showed less injury. Young trees often came through in much better condition than older trees of the same variety. The recent rains have greatly improved the conditions of lawns, ornamentals and vegetables. Bluegrass lawns at the present time have that verdantly green appearance so much desired. The shrubs and trees have been given their annual June pruning and with the effects of winterkilling removed, have a much more respectable look. There is little bloom among them at present; rugosa and hybrid rugosa roses, Japanese lilac, and mock orange are the only shrubs in bloom. Peonies are past and gypsophila, umbellatum lilies, coreopsis, and delphinum, supplying a bit of color among herbaceous stuff. Vegetables are coming along nicely but will be about a month late on an average. The following is a summary on their prospects at the present time. Beans, emerged and still emerging, good stand; late beets, emerged, poor stand, late to normal; carrots, very poor stand, late; cabbage, and cauliflower, good stands, a month late; celery, good stand, normal; cucumbers, late; eggplant, good stand, normal; lettuce, good stand, normal; melons, poor stand, very late; onions, fair stand, month late; parsnip, good stand; late peas, good stand, late to normal; pepper, normal; potatoes, late to normal; pumpkin, late; radishes, good stand, very late; rutabaga, good stand, normal; spinach, good stand, late; sweetcorn, good but uneven stand about normal; squash, good stand, very late; tomatoes, good stand, normal, very promising; tomatoes in breeding project, good stand normal season; sweetcorn in breeding project, just emerging, fair stand, late; melons in the breeding project were not planted owing to the unfavorable conditions in spring, and being too late after the rains.
E. V. Goodman, Bureau of Soils, was a visitor during the week.

BELLE FOURCHE:

Cloudy, unsettled weather has prevailed throughout most of the week. A substantial rain of 0.71 inch, and a number of light showers were received. The various crops have made a vigorous growth, but practically all of the moisture received in recent rains has been utilized, and a few days of hot weather will cause small grains to resume burning unless additional rain is received. Flax is in full bloom, and most of the early small grain has recovered sufficiently from the drought to permit the completion of heading, but the heads are very small and the growth more or less stunted on all cultural treatments, except summer fallow cultivation. Corn and sorgo have emerged with fair stands on all plots, and potatoes are beginning to come up. Field work has included the cultivating of corn, sorgo, fallow, and green manure plots. Potatoes were harrowed, and roadways were duckfooted.

Maximum temperature, 92°; minimum, 48°; precipitation, 0.88 inch.

AKRON:

Unsettled weather has prevailed. On Tuesday while the surface soil was still smooth from the hard beating rains of last week a hard driving wind sprang up from the southwest about 11:30 a. m. and swinging around to the west and thence to the northwest kept the air filled with dust until nightfall. This wind threatened to cut the recently emerged plants in the sorghum nursery and variety experiments necessitating a speedy spike-tooth harrowing of these projects. On Wednesday night a local thunderstorm furnished 0.34 inch of rainfall at the station. The partly cloudy weather and the showers have been very beneficial in softening the hard crust which formed over non-emerged corn, beans, millet and sorghum, and stands of these crops have been thickening up during the week. Some corn which it was thought would have to be reseeded has emerged to fair to good stands. The teams and tractor have been busy all week, the former seeding and stirring crusted soil in emerged experiments, and the later cultivating open lands and roadways. Myriads of pig weeds have emerged on all non-worked soil. Much soil working remains for next week, also some additional seeding, corn cultivation and harvest. Corn cultivation was started the last of this week, also, the first harvesting on the winter wheat nursery project. Winter wheat, oats, and barley appear to be ripe; harvesting will be difficult because of their very short stature. Messrs Geo. Emerson and R. E. Ford visited during the week. The former is connected with the Cheyenne Horticultural Station and the later is Extension Forester for Colorado.

Maximum temperature, 95° (Tuesday); minimum, 54° (Sunday night); precipitation 0.34 inch.

NORTH PLATTE:

Another shower on Saturday night, following last week's report, brought the total for the four days June 13-16 to 1.99, and 1.84 inches at the bench and table guages respectively. Good growing conditions without excessive temperatures have prevailed since. Pastures have turned green. Alfalfa, corn, and weeds have made excellent growth. Early planted corn is two to three feet high which is about a foot ahead of normal growth for the season. Corn planted in dry soil is just emerging. Large acreages of feed crops are being planted on grain fields. More would be planted except for the high price and scarcity of seed. All fall seeded grains on the station were harvested during the week. Plots on fallow were cut with a binder. On cropped land a mower with buncher attachment was used to gather up the light yield. In many cases the only heads were on the plot margins.

COLBY:

The weather has been very variable this week-dry, rainy, and threatening; cool and extremely hot; quiet and very windy; and chilly winds and very hot winds. Tuesday was the hottest day of the year. One of the very hottest winds ever experienced here blew all afternoon. Very high and destructive winds preceded the showers and threats of showers. The small grains have been ripening rapidly. All the winter wheat plots are ready for the combine, except those where the wheat was drilled in corn stalks. The oats are all practically ripe. Only those on fallow are at all well filled. The spring wheat on fallow is still fairly green. The rest of the spring wheat plots are turning whitish fast. The fallow plot of barley is also ripe. The other barley plots range from poor to

very poor. Corn is growing rapidly now and is about a foot high where it follows small grain and about 8 inches high following corn. Following milo it nearly dried up and that which recovered after the rains is about four inches high. Milo is growing nicely. That which did not come before the rains is coming now. Much of the feterita had to be replanted due to washing under. All the Early Sumac sorgo plots had to be replanted. The MC A plot of kafir is just coming up. Plot MC D has a very good stand, and MC B has a fair stand with some still coming up. The beans came up thick and are making rapid growth.

Maximum temperature, 103°; minimum, 48°; precipitation, 0.13 inch.

GARDEN CITY:

Just another dry hot windy week. The moisture from the small rain of last week is still somewhat in evidence on most of the plots. Two days this week were terrible. The first was windy and dusty with an average of 17.4 m.p.h. wind velocity for the 24-hour period. The day following was unusually hot with high wind and a maximum temperature of 106. This was the first day of really hot winds of the year. All rotations were put in final shape for planting the first of the week and everything planted as rapidly as possible. Several plots of corn were replanted. Some of the original planting is still coming up. The wheat on the Dry Land Project was harvested the first of the week. The maximum yield was 14.7 bu., with a close second of 13.7 bu. All other yields were down in the lower scale. The best average for the entire wheat methods was from rotation fallows and wheat following milo and kafir, on wide spacing. The 13.7 bu. yield was following milo in 132-inch spacing, while wheat after 88-inch spacing milo was 5.0 bu. and wheat after 88-inch spacing kafir was 7.3 bu. The high yield of 14.7 bu. was on fallow in a rotation where snow drifted and lodged on this plot adjacent to a fence. The wheat on this plot was 32 inches high on the north side and 14 inches high on the south side, decreasing gradually from north to south.

Maximum temperature, 106°; minimum, 50°; precipitation, 0.

HAYS:

After a dry season we are now experiencing a "wet" harvest. Upon two or three different occasions rains have caused short delays in the harvest. However, the rain was so badly needed for pastures and feed crops the damage to the harvest has been more than offset by the benefit. Wheat on fallowed plots is ranging in yields from 5 to 27 bushels per acre, on well prepared plots that were in wheat last year from 0 to 2 bushels, on corn stubble plots from 1 to 5 bushels, and on sorghum stubble plots from 0 to .5 bushels. The quality of the wheat from fallowed plots, although shriveled, is fair; from corn stubble plots, is not so good; and from wheat following wheat is extremely poor and so badly mixed with grasshoppers it would hardly be salable. Spring wheat will be poorer than the winter wheat. Oats and barley have not yet been threshed but it is evident there will be no yields of value except from fallow plots. Corn and sorghums were planted Monday and Tuesday. Today the corn is just peeping through the ground and the sorghums will be up in a day or two. Prospects at present are encouraging for a good stand. Chinch bugs are numerous in foxtail and other grasses on the plots. Grasshoppers seem to be coming in large numbers and are apparently ready for the corn as soon as it emerges. Considerable poison has been spread the last of this week for their destruction and it appears it will be necessary to continue spreading poison if the crops are to be saved.

Maximum temperature, 102°; minimum, 52°; precipitation, a total of 3 rains, 1.92 inches.

TUCUMCARI:

Continued drought, rising temperatures, very high evaporation, and hot, drying winds have added materially to the seriousness of an already extremely critical situation. Livestock are in poor condition, no grass is starting, no planting can be performed, and the light carry-over of roughage has long been consumed. Station work has consisted of spraying orchard and evergreens, rebuilding wagon scales, erecting 40-foot steel wind-mill tower, and hoeing scattering weeds from around trees which are daily shedding leaves.

Maximum temperature, 103°; minimum, 56°; precipitation, none; evaporation 3.210 inches; wind velocity, 6.7 m.p.h.

The following figures show seriousness of the drought:-

Period	Precipitation		
	Received	Normal	Deficiency
Jan. 1 -- June 23	1.44 inches	6.85 inches	5.41 inches
Sept. 1 -- June 23	2.81 "	11.07 "	8.26 "

DALHART:

What prospects and hopes that one has entertained for grain from row crops have rapidly disappeared during the past week. The hot, windy, and dry weather has caused the seedlings from the grain crops planted the last of May and the first of June to wilt almost to the exhaustion or lethal point during the past three days. Except on fallow the sorghums have made practically no growth during that time. These crops cannot survive long without rain. Crops planted the preceding week are emerging to scattered stands. Scattered emergence is also noticed on crops planted on Monday and Tuesday of this week. The planting of the rotation row plots and the remainder of the increase seed fields was completed during the week. The only project not planted is the milo disease nursery. Should rain come this will be planted during the coming week, otherwise it is just as well off not planted.

Maximum temperature, 100°; minimum, 55°; precipitation, trace.

BIG SPRING:

Unusually hot weather has prevailed during the past week with no signs of rain to improve the situation. On only two days during the past two weeks has the maximum temperature been below 100°; the highest recorded during the period was 109°. The early-planted feed stuffs such as milo and kafir are heading at from 18 to 24 inches high. If conditions do not change, it is probable that this feed will not be fit for anything but possibly a little grazing. Cotton is making but very little growth, and uneven stands are the rule throughout this section. The plots were staked off for trimming in the rotations and the varieties. Other work has consisted of cultivating and hoeing the evergreen planting, knifing the rotations and cultivating some increase sudan and kafir.

Maximum temperature, 109°; minimum, 65°; precipitation, none.

LAWTON:

Although soil moisture conditions were very good the first of the week, the maximum temperatures of 102° on the 20th, and 103° on each of 3 subsequent days, and brisk southwest winds were injurious to all vegetative growth. This sort of weather is characterized by high temperatures, more than average wind velocity and very high evaporation, is disasterous to corn that is in full silk and tassel, and sorghums that have made a rapid, succulent growth wilted and dropped during the heated part of the day. Chinch bugs are doing rapid injury and damage to feterita and to some of the M. C. sorgo plots. Growth of cotton seemed to have been

inhibited by the lashing wind that accompanied the rain on the 16th. Full stands in the June 15 planting emerged within 4 to 5 days. Threshing of rotation plots of wheat, oats, a part of the wheat variety test, and some oats on an increase field was done on the 21st.to the 23d. Oats on the rotation plots were light and chaffy and wheat was lacking in plumpness of kernel. The range in yields will also be rather wide.

WOODWARD:

The weather the past week has been very variable. The first part was cool and the latter part hot. Humidity has varied extremely. Some days have been unusually quiet, on others high winds have prevailed, and there has been a disagreeable and damaging movement of sand left on the surface by last week's beating rain. Cotton and sorghums which were planted a month ago are thriving vigorously. Sorghums which were just emerging or not yet up when last week's rain came are struggling with the crust that was formed. Through last week much of the wheat straw became rotten ripe and this week harvesting of the rotation plots and the small fields was pushed as rapidly as possible and completed. Very little trouble was experienced with the combine. The season, for some unknown reason, continues remarkably favorable to all flowering shrubs. The vitex, desertwillow and trumpet creeper never had so many, larger or brighter blossoms. The quihoui privet is drooping and almost hidden with its abundance of bloom. Almost every day it seems that another day lily comes into the picture. Cherries have been ripening for three weeks, dewberries are bearing abundantly, apricots are being harvested for the first time in many years. Peach trees are unusually heavily laden with fruit. Early peaches at least will be of good quality due to recent rains. Station work for the week consisted of planting cowpeas and sorghums, cultivating sorghums, hoeing vineyard and orchard, sprouting grapes, drilling sorghum for hay, harvesting wheat and alfalfa and picking fruit.

Maximum temperature 103°; minimum, 60°; average hourly wind velocity 7.2 miles; precipitation, none.

PENDLETON:

The harvest season is at hand with many farmers starting their combines this week. The wheat on the station will be ripe enough to combine in about a week. Most of the winter wheat on the lower elevations is ripe and the spring wheat is coloring up rapidly. Weather conditions during the week have been fine for the ripening wheat. The annual station field day was held on June 20th with 110 visitors present, a very good crowd considering that harvest had started. On the station about half the winter wheats in the cereal varietal trials and all peas have been harvested. The pea weevil is unusually abundant this year on account of the mild winter; the prevalence of so many weevils has made the sale of late sown peas to the cannery impossible.

Maximum temperature, 94°; minimum, 36; precipitation, 0.

JUL 20 1954
BUREAU OF PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JULY 1 - 1934

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REPORT FOR THE WEEK ENDING JUNE 30, 1934.

HAVRE:

The outstanding event of the week was a heavy storm on the 26th with hail that damaged small grain crops from 40 to 100 per cent. With 0.90 inch of rain, and small grain yet immature, there will doubtless be considerable recovery. Comparative data will not be of much value from present appearances. Corn should recover in fair condition but will be late. Flax, not more than 4 inches high at the time of the storm, was not seriously damaged except from washing. Commercial fields of barley and rye were damaged but should still give sufficient yields for station needs. Some alfalfa that was standing was not seriously damaged. Seed yields may be interfered with but there should be some seed. Haying in the larger fields of alfalfa is about complete. New alfalfa and crested wheatgrass just emerging was badly damaged from washing and baking. Crops generally are in good condition in this section. Some fields of fallow should make 30 or 35 bushels. Grasshoppers are causing some damage in places but the prairies continue green with the result that there has not been as much concentration in grain fields as might be expected with the large numbers present. Range grass is generally very good. The week was generally cool.

Maximum temperature, 81°; minimum, 48°; precipitation, 1.06 inches, June precipitation, 2.91 inches.

JUDITH BASIN:

Temperatures slightly below normal with a few light showers have characterized the weather for the past week. Spring grains have reached the stage where they need rain badly in order to produce average yields. Grasses are holding their own, but the alfalfa crop is a total failure in this section of the State. Sweetclover, although the yields will be less than average, will produce more hay than either of the beforementioned crops. Winter wheat is beginning to turn and should be ready for harvest the latter part of July, about two weeks earlier than the usual time.

Maximum temperature, 77°; minimum, 43°; precipitation, 0.40 inch. June precipitation, 2.70 inches; January--June precipitation 5.57 inches.

HUNTLEY:

The weather during the last week was rather favorable for corn but not for small grains. Most of the corn in the rotations made a fair growth and reseeded hills came up well. On a few plots the corn leaves have curled slightly during the warmest days, but the crop still has a good color. Small grains are getting very dry, and the present outlook is that very little of the grain will fill. Grasshopper infestation is getting serious, due to the insects moving in from surrounding range country and concentrating on such plots as are still green. Poisoned bran was spread during the week, but it appears that this operation may have to be almost continuous while the present migration lasts.

Maximum temperature, 93°; minimum, 46°; precipitation, 0.01 inch; June precipitation, 1.23 inches.

SHERIDAN:

Moderate temperatures continued over most of the week, with one light shower, and high wind at times. Grains continued to hold up in condition fairly well. Corn continues to make a good growth but is curled some the most of the time during the day. Some winter wheat on land in small grain last year is nearly ripe. The most of that crop as well as Brunker oats and Vaughn barley in the varieties is ripening. The most of the grain that has reached this stage seems to be fairly well filled in proportion to the growth made. Poisoning of grasshoppers was continued. Fairly good kills were obtained from bait scattered in the last three weeks, but apparently the hoppers are moving in from the surrounding range land about as fast as they can be killed. Poisoning on the range land in this county was discontinued in order to conserve the available bait for land in crop. Sheep and hogs were weighed. Feeding of grain to supplement the sheep pastures, except the crested wheatgrass and native grass grazed in rotation, was started. Total precipitation for the month to date was 1.36 inches, 0.75 inch of which fell in sufficient quantity in one period to be of some benefit to crops. More moderate temperatures during most of the month than for some time past, together with considerable cloudiness, helped to maintain grain crops in better condition than was considered possible with the small amount of precipitation received. It appears now that there may be some fair yields of winter wheat and barley on fallow and corn ground, and of the earliest varieties of oats on fallow. Reward wheat on fallow also appears to be filling well. Much of the grain crop is a total failure as a result of the drought and grasshoppers.

Maximum temperature, 95°; minimum, 46°; precipitation, 0.14 inch.

DICKINSON:

June precipitation amounted to 3.88 inches which is 0.68 inch above normal. Rain fell on 15 days of the month. The total precipitation for the six months ending June 30 was 5.7 inches. The deficiency for the six months is 2.7 inches. The mean temperature for June was 62°, whereas that for May was 62.9°. This was the first time in many years that May was warmer than June. The maximum temperature in June was only 90 , while in May 102° was recorded. Two showers and normal temperatures were favorable for all crops. The cleaner fields of small grains improved in condition, but many fields are so weedy that improvement is impossible. Corn, millet, and other late seeded feed crops made good growth. Grain fields contain little reserve moisture and will soon show drought injury if dry weather comes. The soil in parts of the county has become so dry that plowing has been stopped, particularly on weedy fields. In general the moisture supply is better to the south and east of the station than to the north and west. Visitors during the week included Knowles A. Ryerson, Chief of the Bureau of Plant Industry, J. Allen Clark, Division of Cereal Crops and Diseases, Director P. F. Trowbridge, and P. J. Olson, North Dakota Experiment Station.

Maximum temperature, 90°; minimum 46°; precipitation, 0.63 inch.

MANDAN:

Agronomy: The week was cool for the time of year, and light rain fell. Crops all continue to grow well but will soon be in need of more moisture. Most of the wheat is now headed out. A few plots look like they might produce fair yields with sufficient moisture. Many of them were beyond recovery before rains came. Corn is coming on very well, but it is spotted, as a large percentage did not come up until after the rains. Corn was thinned during the week. Crested wheatgrass is now about all headed out and looks like it might make a light seed crop. Alfalfa along the coulee was hauled; the crop was very light.

Maximum temperature 87°; minimum, 52°; precipitation, 0.26 inch.

Cooperative Grazing Experiment: Pastures are now all in good condition for grazing and are furnishing plenty of feed for the cattle. The cattle are being weighed today. Steers will be started on the 50 and 30-acre pastures. There was no feed in these pastures to start them out the middle of May.

Horticulture: Pruning and removal of dead wood in the orchards has been in progress during the week. All fields have been cultivated and followed up with hand-hoeing. The growth of weeds since the rains has been rampant, especially of Russian-thistle and portulacca . Juneberries are ripening; the crop is small and fruit undersize. Prospects for a small fruit crop in general appear to be poor withe exception of Golden currant, which has a very fine crop at the present time. Vegetables are coming along splendidly, although but few are ready for use as yet. The grounds were groomed during the week and hedges trimmed both on grounds and in the field tests.

Arboriculture: Collection of data from cooperative shelter belts has been made in all counties east and north of the Missouri River, and one county south of the river in North Dakota during the past two weeks. The majority of 5-, 10-, and 15-year belts have withstood the drought conditions in a remarkable manner except in McKenzie County, where heavy losses have taken place. Plantings set out in 1934 are in weak condition and show considerable losses. Many of the trees are green but show no signs of leafing out, which makes it difficult to determine the survival. Spruce and pine, from 3 to 12 years of age, set out as additions to shelter belts, have suffered considerable losses. These trees are set at 15 to 20 feet from the hardwood belts and have not developed shade as found in the hardwood belts. In consequence they have suffered extreme drying during the drought period. Visitors of the week included R. L. Shotwell, Bozeman, Mont. Bureau of Entomology; Ralph W. Smith, Dickinson, N. Dak. Cereal Crops and Diseases; Director P. F. Trowbridge, Peter Olson, Farm Crops, and Prof. J. A. Munro, State Entomologist, North Dakota Agricultural College.

BELLE FOURCHE:

A 0.47 inch rain was received June 24, but warm, dry weather prevailed throughout the remainder of the week. A total of 3.65 inches precipitation has been received in June to date as compared with an average of 2.60 inches for June. All early small grains are suffering from lack of moisture, and the lower leaves are turning brown. Corn and sorgo have made good growth, and potatoes are coming up. Field work has included miscellaneous weeding, hoeing, and thinning corn and sorgo, cultivating potatoes and alleyways, duckfooting fallow plots and roads, and dragging roads.

Maximum temperature, 96°; minimum, 54°; precipitation 0.47 inch.

AKRON:

The week was favorable for field work, although the weather was unsettled. On Sunday there was another of those hard, driving, soil blowing winds from the south and southwest. Temperatures were 90° or above on five of the past seven days. Nursery harvesting has been actively in progress during the week. Increase Flynn and Club Mariout barley were harvested and threshed. Rotation barley and oat plots tall enough to harvest with the binder were harvested. The seeding of feed crops and the cultivating of fallow, roadways, and alleyways were completed. The station corn and the first date seedings of beans were cultivated, also the rotation kafir and sorgo plots. Rotation fallow and green manure plots were cultivated for the first time since having been plowed. Messrs F. A. Coffman of the Cereal Division and D. W. Robertson of the Agricultural College visited Thursday and Friday.

Maximum temperature, 98°; minimum, 56°; precipitation, 0.29 inch.

NORTH PLATTE:

Dry, hot weather prevailed during the week. The four days with rain June 14-17 made the month the best of the year to date. The month closes with a rainfall deficit of about 30 per cent. The The deficit for the year to date remains above 50 per cent. Corn that has made a rapid growth since the rains is now showing need of moisture. Pastures are again losing their green color. Winter wheat was threshed June 28-30, which is a record for early threshing at this station. Yields have not been calculated, but were even lower than anticipated. The maximum on fallow is about 15 bushels with some plots running as low as 3 bushels. No yields were secured on cropped land. Dean W. W. Burr and K. S. Quisenberry were station visitors during the week.

Maximum temperature, 102°; minimum, 64°; precipitation 0.08 inch.

COLBY:

This has been a very hot and, at times very windy week. The winds were mostly very hot, causing the late small grains to shrivel and the corn and sorghums to curl. There was considerable soil blowing on several occasions. Most of the week has been devoted to getting ready to harvest and harvesting. The winter wheat harvest was finished yesterday. The spring grains will probably be harvested today. The winter wheat plots yielded from nothing to 28.2 bushels. The highest yielding plot was the fallow plot worked entirely with the oneway. The kernels were quite plump on all the plots. Most of it was bleached some by the light showers since it began to ripen.

Maximum temperature, 105°; minimum, 58°; precipitation, 0.15 inch.
Precipitation, January - June, 4.46 inches. the second lowest on record for the period.

GARDEN CITY:

This has been the record week for the year to date for high temperatures. On only three days was the wind velocity below ten miles per hour. One hopeful appearing storm turned out to be a big blow with only 0.21 inch precipitation. When the wheat fields surrounding the station were harvested the grasshoppers began to flock in on the station. On two occasions grasshopper poison has been spread over the entire D. L. A. Project, starting at 4 a. m. and finishing about 6. It is quite likely that this operation

may have to be repeated once and possibly twice more. Good kills were obtained from both operations. The sorghums on the rotations are gradually coming through. Some plots have already emerged sufficiently to record the emergence dates, while others are slow, some just showing in a few places. The small rain did not furnish enough water to reach the seed. Field corn has emerged so that good stands are recorded for all plots with some still coming through.

Maximum temperature, 108°; minimum, 65°; precipitation, 0.21 inch.

TUCUMCARI:

Work of the past week has included threshing wheat plots, on which yields were very low, field cultivating all station increase land, watering young trees and grape vines, and hoeing tree plantings. June was unusually hot, dry, and windy. The mean temperature, 79°, was 4° above the long-time June average mean. Wind velocity was the second highest June average in 18 years. Evaporation, 13.240 inches, was the fourth highest month on record at this station. Precipitation on six days totalled 0.91 inch, of which the greatest on one day was 0.45 inch. The total for 1934 to date is 1.68 inches and the total for ten months, September-June is 3.05 inches.

Maximum temperature for the week, 100°; minimum, 64°; precipitation, 0.24 inch.

DALHART:

Temperatures were high, and no precipitation was received during the past week. The first two dates-of-planting of grain sorghums have made but little, if any, growth since a week ago. A few of the rotation sorghum plots have likewise failed to grow. By 10 o'clock each morning the sorghum seedlings have wilted, and by mid-afternoon they are very limber. So far the sorghums have been able to revive during the night. Unless moisture is received soon some of the plants will most certainly die. Corn on the rotation plots wilts almost as much as the sorghums on the date-of-planting plots. There was slightly more moisture in the rotation plots at planting time. Some of the corn plots have a distinctly unhealthy color not entirely unlike disease spots of regular Dwarf Yellow milo. Farmers report poor stands and daily loss of stands which have been secured. Sorghums planted the preceding week are up to very spotted stands.

Maximum temperature, 103°; minimum, 63°; precipitation, trace.

BIG SPRING:

Maximum temperatures have receded somewhat during the past week, but otherwise climatic conditions have remained unchanged, except to become just a little drier, as there has been no rain in any part of the county. The rainfall for June totalled 0.28 inch in three little showers. Native pastures are becoming very short, and many ranchers will have to start summer feeding if rain is not received in the near future. The late planted sorghums on the station are holding up fairly well, although they are making very little growth. Station work has consisted of trimming plot ends in the rotations and thinning an increase block of milo; cowpeas were also cultivated. Other work has consisted of hoeing out fence rows and rebuilding the fence along the north side of the station.

Maximum temperature, 100°; minimum, 72°; precipitation, 0.

LAWTON:

Corn, sorghums, alfalfa, sweetclover, and native grasses suffered another week of distress. The average maximum temperature for the past 12 days was 100.8°. A very moderate wind velocity the past week was of considerable crop advantage. Rotation plots of feterita and broomcorn appear to be damaged beyond recovery by chinch bugs. The infestation is so heavy that kafir and sorgo will require a plentiful supply of rain to mature a crop. Cotton is responding to the hot weather with a very nice growth to date. The total June precipitation, received from the 1st to the 15th was 2.27 inches, 1.19 inches below the monthly average. Precipitation January--June amounted to 11.53 inches. February was the only month that did not show a deficiency. Messrs Locke and Johnson from the Woodward station were station visitors the latter part of the week.

WOODWARD:

There has been no rain the past week, winds have been steadily, moderately high, and maximum temperatures have hung persistently around 100°. Trees and shrubbery, which have been making a rapid, leafy growth all spring, have wilted badly and constant watering has been necessary to keep many of them from dying. Good stands have been secured from seed and cuttings planted in the nursery, and the most exacting part of weeding and thinning on them is over. Reasonably good stands were secured for all row crops, and all are making satisfactory growth. Thinning of sorghum plots on rotations will be practically completed this week and the first cultivation given them. All of after harvest work such as one-waying, plowing, and disking on wheat plots is completed. With full stands on everything the prospects are for a more expensive and more satisfactory season than last year when stands of many plots were thin and broken, some plots were not planted or did not come up or were not harvested. The vitex, desert willow, Chinese trumpet creeper, and the mallow marvels with great blossoms flaunting like banners, make up the most noticeable floral display. Otherwise, this is accepted as a period of slack bloom. Still on a hurried inventory of the grounds 35 distinct genera were found blooming strongly. The lavenders, hyssopus, Chinese pinks, salvias, thymes, monardas, and ballon flower are among the better of the herbaceous flowering plants for this time of the season.

Maximum temperature, 105°, minimum, 71°; precipitation, 0.

PENDLETON:

A large number of combine harvesters were started this week on winter wheat. Yields reported by farmers are considerably below expectations; land which usually produces about 50 bushels per acre is yielding about 38 bushels. A number of farmers have reported frost damage with a large number of sterile heads in their fields. On the station winter wheat on the rotation plots has been harvested. The weather during the week has been moderately warm with an unusual amount of wind for this time of year. On the 26th a heavy wind and dust storm shattered some wheat. Range conditions in the mountains are excellent. Visitors during the week Messrs Gaines, Holton, Vollmer, and Vogel of Washington State College, Pullman, Wash.

Maximum temperature 94°; minimum, 40°; precipitation, 0.10 inch.